

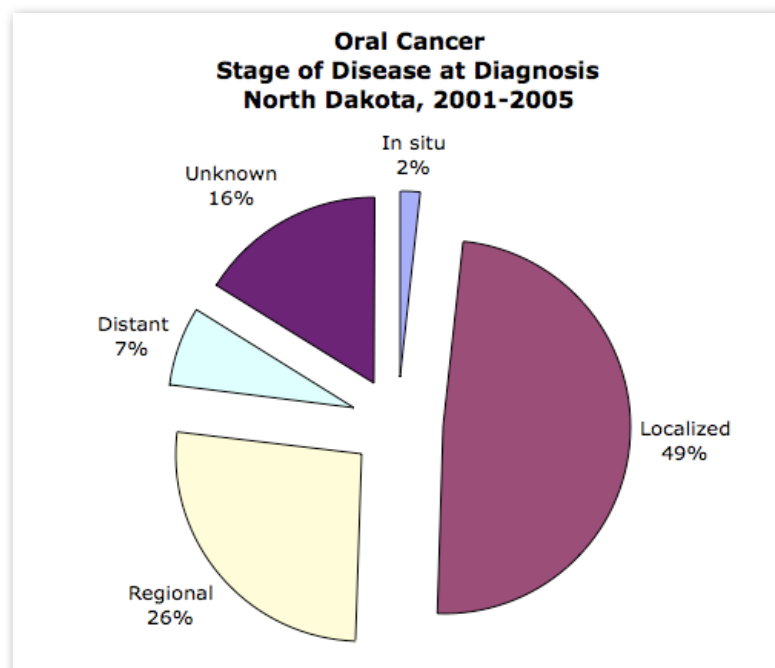
Summary Statistics	ND <sup>*</sup>	WNC <sup>**</sup>	US <sup>***</sup>
<b>INCIDENCE</b>			
Annual age-adjusted incidence rates*	10.0	10.9 <sup>^</sup>	10.6 <sup>*</sup>
Average number of new cases each	70	2,208 <sup>^^</sup>	28,351 <sup>**</sup>
Percentage of all new cancers	2.1%	2.5% <sup>^^^</sup>	2.3% <sup>***</sup>
<b>MORTALITY</b>			
Annual age-adjusted mortality rates*	2.8	2.4	2.7
Average number of deaths each year	20	442	7,737
Percentage of all cancer deaths	1.5%	1.1%	1.3%
<sup>*</sup> Rates per 100,000 and standardized to U.S. year 2000 population. <sup>**</sup> NWC and US data source: <a href="http://apps.nccd.cdc.gov/uscs">http://apps.nccd.cdc.gov/uscs</a>			

### *What is the Oral Cavity and Pharynx?*

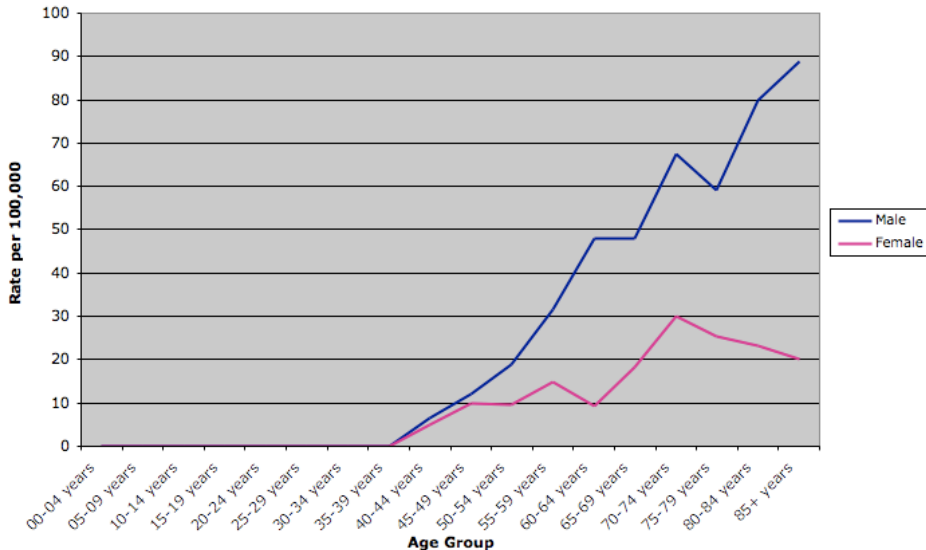
The oral cavity includes the lips, inside lining of the lips and cheeks, teeth, gums, front two-thirds of the tongue, floor of the mouth below the tongue, bony roof of the mouth, and the area behind the wisdom teeth. The oropharynx begins where the oral cavity stops and includes the base of the tongue, soft palate, tonsils and tonsillar pillars, and the back wall of the throat. The oral cavity and oropharynx assist in breathing, talking, eating, chewing, and swallowing. Minor salivary glands located throughout the oral cavity and oropharynx make saliva that keeps the mouth moist and helps digest food.

### *What is Oral Cancer?*

There are two kinds of oral cancers: oral cavity cancer which starts in the mouth, and oropharyngeal cancer, which develops in the part of the throat just behind the mouth. Many types of tumors can develop and some of these are benign and some are cancerous. Leukoplakia is a benign condition, however approximately 25 percent can develop into a cancerous lesion.



**Oral Cancer  
Age-Specific Rates  
North Dakota, 2001-2005**



## *What are the risk factors?*

Smoking, smokeless tobacco, and alcohol substantially increase the risk of developing oral cancer. Other risk factors include poor nutrition, irritation, HPV, ultraviolet light, persistent bad breath, numbness of tongue or other areas of the mouth, age, and gender.

## *What are the signs and symptoms?*

The most common symptom of oral cancer is a sore in the mouth that bleeds easily and does not heal. Other signs and symptoms include pain that does not go away; lump or thickening in the cheek; white or red patch on the gums, tongue, tonsil, or lining of the mouth; and, sore throat or feeling of something caught in the throat. Difficulties with chewing, swallowing, or moving the tongue or jaw are often late symptoms of oral cancer.

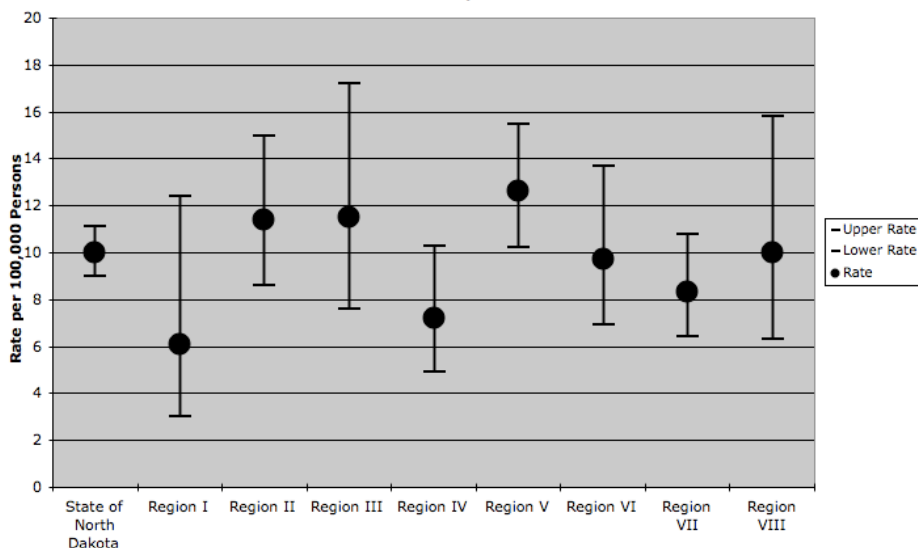
## *How is it diagnosed?*

A medical checkup including examination of the mouth and throat. A biopsy is needed to confirm that a cancer is present.

## *What are the common treatments?*

Treatment options include: surgery, radiation therapy, and chemotherapy.

**Oral Cancer  
Incidence Rates by Geographic Region  
North Dakota, 2001-2005**



**Oral Cancer  
Incidence Rates by Gender  
North Dakota, 2001-2005**



## *What is the survival outcome?*

The American Cancer Society states that nationally 81 percent of oral cavity and oropharyngeal cancer patients survive at least one year after diagnosis; and, for all stages combined, the 5-year relative survival rate is 59 percent.

## *What can you tell me about this cancer in North Dakota?*

### **INCIDENCE:**

An average of 70 new cases of oral cancer are diagnosed each year in North Dakota, which is two percent of all cancers diagnosed in the state.

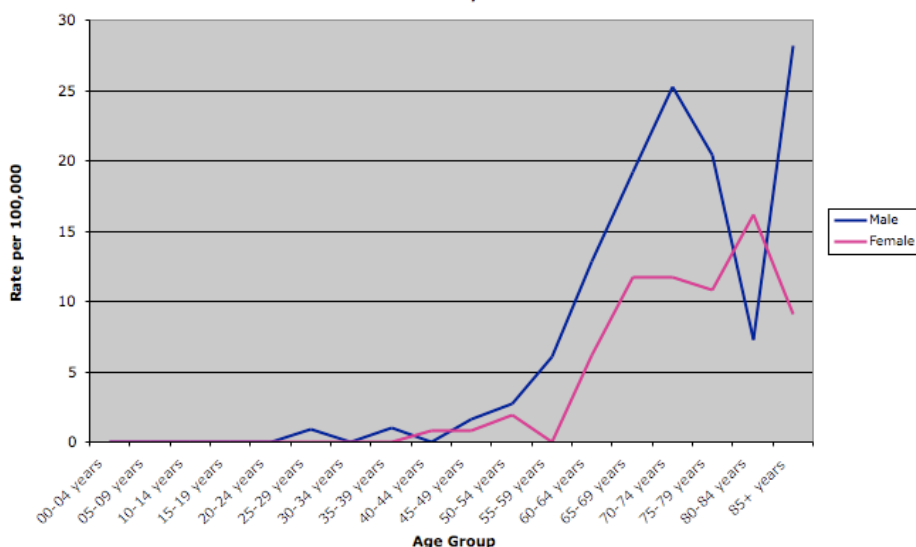
The incidence of oral cancer is higher among men than women.

The average annual incidence rate for men is 14.6 per 100,000 men, and the average annual incidence rate for women is 6.4 per 100,000 women.

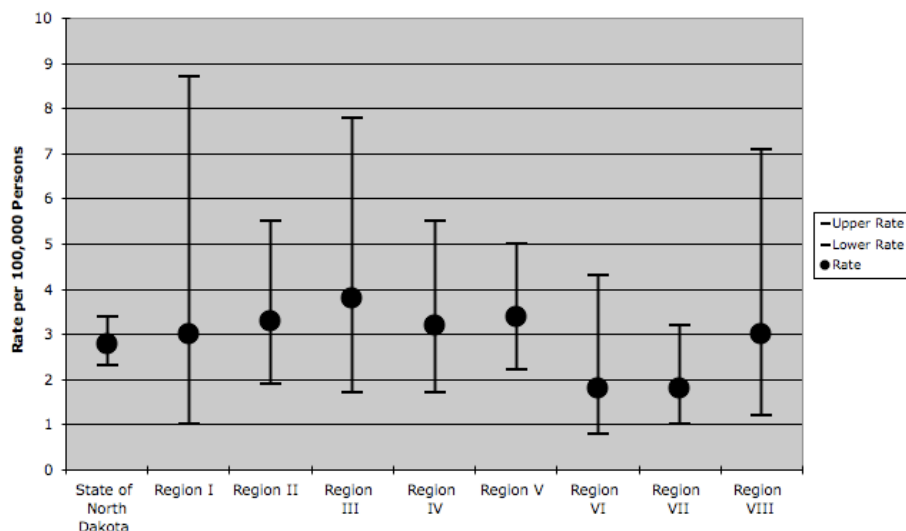
Since the incidence is higher among men than women, the age-specific rates for men are higher.

The incidence of oral cancer is similar across the state.

**Oral Cancer  
Age-Specific Mortality Rates  
North Dakota, 2001-2005**



**Oral Cancer  
Mortality Rates by Geographic Region  
North Dakota, 2001-2005**



## DIAGNOSIS:

About half (49%) of oral cancers are diagnosed at a localized stage of progression.

26% of oral cancers are diagnosed at a distant stage of progression.

## MORTALITY:

An average of 20 deaths due to oral cancer occur each year in North Dakota, which is about one and one-half percent of all cancers deaths in the state.

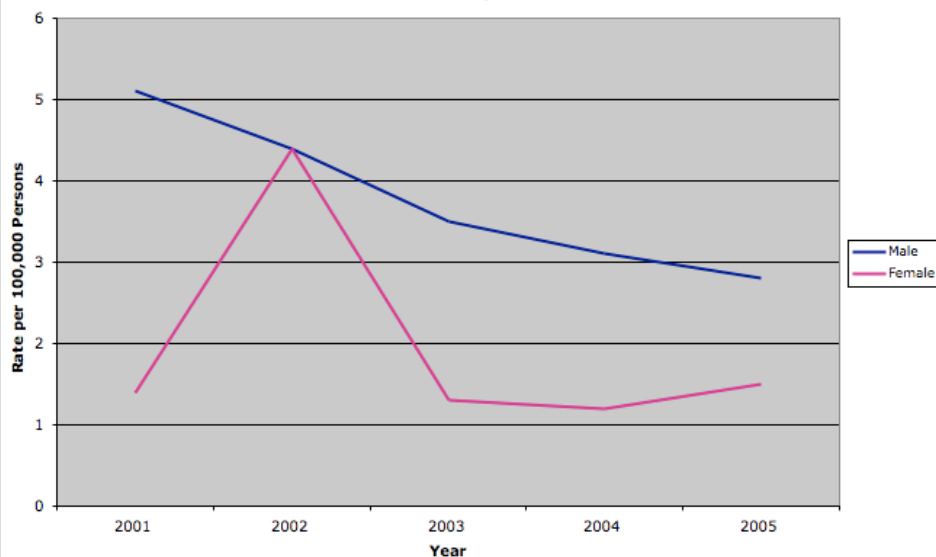
The average annual death rate for men is 3.8 per 100,000 men, and the average annual death rate for women is 2.0 per 100,000 women.

The death rate of oral cancer is similar across the state.

## *The North Dakota Cancer Registry*

Established in 1997, the North Dakota Cancer Registry (NDCR) maintains a data management system on the diagnosis, treatment and outcome of cancer and other reportable neoplasms among North Dakota residents. This data is the primary information regarding cancer in North Dakota. The NDCR is located at the North Dakota Department of Health in Bismarck, North Dakota.

**Oral Cancer  
Mortality Rates by Gender  
North Dakota, 2001-2005**



### *Geographic Regions in North Dakota*

Geographic data is presented by regions. A region is a group of counties. The regions include the following counties:

**Region I:** Divide, Williams and McKenzie counties.

**Region II:** Burke, Bottineau, McHenry, Mountrail, Pierce, Renville and Ward counties.

**Region III:** Benson, Cavalier, Eddy, Ramsey, Rolette and Towner counties.

**Region IV:** Grand Forks, Nelson, Pembina, and Walsh counties.

**Region V:** Cass, Ransom, Richland, Sargent, Steele and Traill counties.

**Region VI:** Barnes, Dickey, Foster, Griggs, LaMoure, Logan, McIntosh, Stutsman and Wells counties.

**Region VII:** Burleigh, Emmons, Grant, Kidder, McLean, Mercer, Morton, Oliver, Sheridan and Sioux counties.

**Region VIII:** Adams, Billings, Bowman, Dunn, Golden Valley, Hettinger, Slope and Stark counties.

The West North Central (WNC) regions include the following states: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.

### *Glossary of Cancer Terminology*

🗨️ **Age-adjusted rate:** Since cancer rates tend to vary with age, and since populations vary with respect to their age distribution, incidence and mortality rates are age-adjusted to allow comparison of rates between different populations (i.e., county or regional boundaries).

🗨️ **Age-specific rate:** The number of new cases diagnosed per 100,000 individuals over a specified time period for a specified age group.

🗨️ **Incidence:** The number of new cases of a given type of cancer diagnosed during the year.

🗨️ **Mortality:** The number of deaths attributed to the particular type of cancer that occurred during the year. Includes deaths of patients diagnosed in earlier years, individuals newly diagnosed during the year, and patients for whom a diagnosis of cancer is made only after death.

🗨️ **Risk factor:** Anything that increases a person's chance of getting a disease.

🗨️ **Stage at diagnosis:** How far a cancer has spread from its site of origin when it is diagnosed. There are several different systems for the staging of cancers. This report uses the general summary stage system. The stages, in order of increasing spread, are in situ, localized, regional and distant. Cancers diagnosed at the localized, regional or distant stage are referred to as invasive.

## *Endnotes*

`: ND data is for years 2001-2005.

``: WNC data is for year 2002.

```: US data is for year 2002

^: WNC incidence rate excludes South Dakota.

^^: WNC average number of new cases excludes South Dakota.

^^^: WNC percentage of all new cases excludes South Dakota (in the numerator) and the states of South Dakota, Virginia, Mississippi, Tennessee, Arkansas and Wyoming (in the denominator)..

\*: US incidence rate excludes the states of South Dakota, Virginia, Mississippi, Tennessee, Arkansas and Wyoming.

\*\*: US average number of new cases excludes the states of South Dakota, Virginia, Mississippi, Tennessee, Arkansas and Wyoming.

\*\*\*: US percentage of all new cases excludes the states of South Dakota, Virginia, Mississippi, Tennessee, Arkansas and Wyoming.